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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on <u>03 May 2011</u>.

2a) ☐ This action is **FINAL**.       2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) <u>1 and 5-26</u> is/are pending in the application.

    4a) Of the above claim(s) <u>15 and 23</u> is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,5-14,16-22 and 24-26</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>29 June 2005</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>1/6/10; 12/14/10</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1.      A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), filed on 5/3/2011 in this application after final rejection. Since this application

is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR

1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn

pursuant to 37 CFR 1.114. Applicant's submission filed on 5/3/2011 has been entered. Claims 1

and 5-26 are pending. Claims 15 and 23 are withdraw as non-elected invention over originally

presented invention.

### *Election/Restrictions*

2.      Newly submitted claims 15 and 23 are directed to an invention that is independent or

distinct from the invention originally claimed for the following reasons: all steps in claim 15

have been deleted and new steps a)-h) have been added. The new independent claim 15 is

distinct from the originally presented invention in that the new claim 15 requires that **each** of

said computers in the network can perform functionalities of **both client and host**. The

originally presented invention, however, does not require that each computer performs both

client and host function.

        Since applicant has received an action on the merits for the originally presented

invention, this invention has been constructively elected by original presentation for prosecution

on the merits. Accordingly, claims 15-16 are withdrawn from consideration as being directed to

a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### *Response to Arguments*

3.      Applicant's arguments have been fully considered but they are not persuasive. The

applicant argues the following issues.

      **(A)      Rejection under 35 U.S.C. 103(a) with regard to claims 1, 5, 10, 13 and 16-21**

      **Issue 1:** Applicant's arguments (on pages 16-20) regard newly added limitation(s).  See

Examiner's response in corresponding rejection section below.

### *Drawings*

4.      Figure 10 is objected to because the characters are not recognizable.

### *Specification*

5.      The specification is objected to as failing to provide proper antecedent basis for the

claimed subject matter.  See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).  Correction of the

following is required: Claims 17-19 recites "computer readable medium" which is not defined or

exemplified in the specification.  It is not clear whether or not the recited "computer readable

medium" contains any transitory media such as "transmission type medium", "signal", or "carrier

wave", etc.  For the sake of examination, the examiner interprets "machine-readable medium"

broadly as comprising both non-transitory and transitory media.

### *.Claim Rejections - 35 USC § 101*

6.      35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject
Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as
follows:

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element
> which defines structural and functional interrelationships between the computer program and the rest of the
> computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32
> F.3d at 1583-84, 32 USPQ2d at 1035.
> Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or
> the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural

> phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal
> encoded with functional descriptive material falls within any of the categories of patentable subject matter set
> forth in Sec. 101.
> … a signal does not fall within one of the four statutory classes of Sec. 101.
> … signal claims are ineligible for patent protection because they do not fall within any of the four
> statutory classes of Sec. 101.

7.      Claims 17-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter as follows. The instant claims are drawn to functional descriptive

material recorded on a computer readable medium.  However, the specification does not define

or exemplify "computer readable medium".  The examiner presumes for the sake of examination

that the term "computer readable medium" comprises both transitory and non-transitory medium.

        "A transitory, propagating signal … is not a "process, machine, manufacture, or

composition of matter." Those four categories define the explicit scope and reach of subject

matter patentable under 35 U.S.C. § 101; thus, such a signal cannot be patentable subject

matter." (*In re Petrus A.C.M. Nuijten*).

        Because the full scope of the claim as properly read in light of the disclosure appears to

encompass non-statutory subject matter, the claim as a whole is non-statutory. The examiner

suggests amending the claim to *include* the disclosed **non-transitory** computer readable storage

media, while at the same time *excluding* the transitory media such as signals, carrier waves, etc.

Any amendment to the claim should be commensurate with its corresponding disclosure.

### *Claim Rejections - 35 USC § 112*

8.      The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

9.       Claims 1 and 5-26 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

        1) Claim 1 recites in step a) "said host computers' stores" lacks sufficient antecedent

basis.  It is not clear which host computers this is referring to, whether a subset of the plurality of

host computers, or all of them.  For the sake of examination, Examiner assumes "any host

computers' stores."

        2) Claim 1 further recites after step c) "each of said host computers."  It is not clear

whether the "said host computers" are a subset of the plurality of host computers or all of them.

For the sake of examination, Examiner assumes "each of any host computers."

        3) Claim 1 further recites in step e), "said host computer's stores."  First of all, it is not

clear which host computer is "said host computer."  Secondly, an earlier limitation indicates that

each host computer has "a store," therefore it is not clear regarding the scope of the term "said

host computer's stores."  For the sake of examination, Examiner assumes "any host computers'

stores."

        4) Claim 1 further recites in steps f), g), and h) "said host computer's store."  It is not

clear which host computer is "said host computer."  For the sake of examination, Examiner

assumes "any host computer's store."  Step g) further recites "said host computer"; step h) further

recites "said host computers."  They are similarly rejected.  Applicant is required to clarify.

        5) Claims 17-19 recites "method steps" of claim 16 only.  The recited terms in the

method steps such as "said host computer," "said client computer" lack antecedent basis without

reciting earlier preamble/limitations.

### *Claim Rejections - 35 USC § 103*

10.     The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

11.     Claims 1-2, 5, 10, 13, 16, 18-22 and 24-26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jaskiewicz et al (US publication 2003/0061491), in view of Toyoshima (US

2002/0082048).

As to claim 1, Jaskiewicz et al discloses a distributed storage network comprising a

plurality of interconnected computers (figure 1), said computers including a plurality of host

computers (figure 1, "Host Electronic Device") each having a store for data items (figure 1, "list

of storage devices and attributes" and "storage apparatus 14," indicating that each host electronic

device has at least one store for data item. Note the claimed limitation does not require the store

to be internal to the host computer therefore external storage reads on the claimed limitation),

and at least one client computer ([0019], lines 16-31, "the user's request includes storage location

attributes desired by the user. The request may be in the form of a specific request from a

particular device or process"; it is to be noted that the Host Electronic Device can also act as the

client computer in response to user's input request, as indicated in [0019], lines 16-31, "the

network storage policy may be input into the storage allocator...systems administrator may select

certain storage attributes to be applied to the network…"), wherein said client computer stores

client code comprising:

a) storage initiation code executable to initiate storage of a data item in one or more of

said host computers' stores ([0019], lines 14-20, "requests storage from the storage

allocator...includes storage location attributes desired by the user...from a particular device or

process"; [0015], lines 4-7, "data accessed by remote user" means both "read data" and "write

data");

      b) storage condition generation code executable to generate one or more interpretable

storage conditions indicating characteristics of host computer stores suitable for storing said data

item ([0019], lines 14-20, "An authorized user...requests storage from the storage

allocator...includes storage location attributes desired by the user...from a particular device or

process");

      c) storage condition sending code executable to send said one or more interpretable

storage conditions to one or more of said host computers ([0020], "the requested storage

attributes are compared with the attributes of the available storage locations" indicates that the

requesting client generated the storage attributes, i.e., storage condition);

      wherein each of said host computers stores host code including:

      d) storage condition reception code executable to receive said one or more interpretable

storage conditions from said client computer or another of said host computers ([0020], "the

requested storage attributes are compared with the attributes of the available storage locations");

      e) host computer store characteristic provision code executable to provide host storage

characteristic data indicating one or more characteristics of said host computer's stores ([0019],

lines 6-13, host storage allocator identifies and records characteristics of storage device; [0021],

"discoverable attributes of the storage device identified by the storage allocator 3". "identifying

storage locations" and then "record attributes of the storage locations" are equivalent steps to

"provide");

f) storage condition interpreter code executable to interpret said one or more interpretable storage conditions in the light of said host storage characteristic data provided by said host computer and thereby to establish whether said computer's store meets said storage conditions ([0020], lines 1-8, "After a storage request is received, the requested storage attributes are compared with the attributes of the available storage locations. A determination is made as to whether there is a match based on the comparison");

g) data item storage code executable to store said data item in said host computer's store on the execution of said condition interpreter code finding that said storage device meets said storage conditions ([0020], lines 1-8, "If a match of the requested storage attributes is found in an available storage location, the storage location is allocated to a specific process or device in response to the request"; [0015], lines 17-20, "host electronic devices 2, 6, and 10 back up all data on RAID sets with specified attributes...").

Jaskiewicz et al does not expressly disclose h) storage condition forwarding code executable, on the execution of said condition interpreter code finding that the host computer's store does not meet said storage conditions, to forward said storage conditions to another of said host computers. Toyoshima discloses storage condition forwarding code executable, on the execution of said condition interpreter code finding that the host computer's store does not meet said storage conditions, to forward said storage conditions to another of host computers (figure 4 and 5; also see [0016], "receiving data from one or more sources to a host device...if the data which is addressed at the mobile device, and the integrated available memory is...near capacity, the data can be transferred immediately to server device." It is to be noted that the storage

condition here is generated along with the data, i.e., the file size, or the required storage space.
Also, both host device and server device can be considered host computers).

At the time of invention, it would have been obvious to a person of ordinary skilled in the
art to combine the teachings disclosed by Jaskiewicz et al, with the teachings disclosed by
Toyoshima regarding forwarding storage condition forwarding code executable, on the execution
of said condition interpreter code finding that the host computer's store does not meet said
storage conditions, to forward said storage conditions to another of host computers. The
suggestion/motivation of the combination would have been to store the data when storage space
is near capacity at one host device (Toyoshima, [0016]).

As to claim 5, Jaskiewicz-Toyoshima discloses a distributed storage network according to
claim 1 in which at least one of said computers stores both said client code and said host code
(Toyoshima, [0037]-[0038]).

As to claim 10, Jaskiewicz-Toyoshima discloses a distributed storage network according
to claim 1 in which said storage condition interpreter code interprets said one or more
interpretable storage conditions using schema data which indicates a common structure for said
interpretable storage conditions (Jaskiewicz, figure 4, schema data indicating common structure
such as device ID, storage location, and whether or not and which device/process the storage is
currently allocated to, as also disclosed in [0022], lines 11-17).

As to claim 13, Jaskiewicz-Toyoshima discloses a distributed storage network according
to claim 1 in which said host storage characteristics data include stored data item description data
which describes data items already stored in said host computer store (Jaskiewicz, figure 4,

component 64 indicates that host computer store has assigned 200 Megabytes to process 25,

which implies that zero or more bytes of data from process 25 is stored at this storage location).

Claim 16 is a method claim corresponding to the distributed storage network claim 1.

Therefore it has been analyzed and rejected based upon the distributed storage network claim.

Claim 18 is a computer readable storage medium claim corresponding to method claim

16's limitations: steps d) to h) and also claim 1's steps d) to h).  See similar rejection to claim 1's

steps d) to h).

Claim 19 is a computer readable storage medium claim corresponding to method claim

16.  Therefore it has been analyzed and rejected based upon the method claim.

Claim 20 is a host computer claim corresponding to the distributed storage network claim

1.  Therefore it has been analyzed and rejected based upon the distributed storage network claim.

Claim 21 is a method claim corresponding to the distributed storage network claim 1.

Therefore it has been analyzed and rejected based upon the distributed storage network claim.

As to claim 22, Jaskiewicz-Toyoshima discloses a distributed network as in claim 1

wherein the data item is forwarded with the storage condition in step h) (Toyoshima, figure 4,

"forward data to server" where data inherently includes the size information).

As  to claim 24, see similar rejection to claim 22.

As to claim 25, see similar rejection to claim 22.

As to claim 26, see similar rejection to claim 22.

12.      Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaskiewicz et

al, in view of Toyoshimal, as applied to claim 1, and further in view of ON (official notice).

        As to claim 6, Jaskiewicz-Toyoshima discloses a distributed storage network according to

claim 1 in which said one or more interpretable storage conditions are stored at one or more of

said computers (Jaskiewicz, [0015], lines 9-11, "Also located on the host electronic device 2 is a

list of storage devices and their associated attributes"), but does not expressly disclose the

storage is persistent.  An official notice is taken there that it is a design choice to store data

persistently.

        At the time of invention, it would have been obvious to a person of ordinary skilled in the

art to combine the teachings disclosed by Jaskiewicz-Toyoshima, with the teachings disclosed by

ON regarding storing data persistently.  The suggestion/motivation of the combination would

have been to provide fail protection.

        As to claim 7, Jaskiewicz-Toyoshima -ON discloses a distributed storage network

according to claim 6 wherein said persistent storage is provided by a database stored at each of

said one or more computers providing persistent storage of said interpretable storage conditions

(ON, it is a design choice to store data persistently in a database).

        As to claim 8, Jaskiewicz-Toyoshima-ON discloses a distributed storage network

according to claim 6 in which one or more computers further stores storage condition editor code

executable to provide a user with an interface enabling the user to update said interpretable

storage conditions or to record new interpretable storage conditions (Jaskiewicz, [0019], lines

25-31, "systems admin may select certain storage attributes to be applied to the network from

available choices in pull down menus").

As to claim 9, Jaskiewicz-Toyoshima-ON discloses a distributed storage network according to claim 8 in which said client computer further stores said condition editor code (Jaskiewicz, [0019], lines 25-31, "The network storage policy may be input into the storage allocator 3 in a number of ways.  The systems admin may select certain storage attributes to be applied to the network from available choices in pull down menus.  Alternatively, the storage allocator 3 may accept input text instructions which are parsed to establish attributes to be applied to network storage operations" indicates the storage allocator on host computers stores condition editor code, and the host computer acts as client computer).

13.     Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaskiewicz et al, in view of Toyoshima, as applied to claim 1, and further in view of Chatterjee et al (US publication 20020099815).

As to claim 11, Jaskiewicz-Toyoshima disclose the claimed invention substantially as claimed as discussed in claim1, but does not expressly disclose action data indicating actions to be carried out by one of said computers on said host computer meeting said storage condition. Chatterjee et al discloses event action data indicating actions to be carried out when the event meets the condition defined in the event trigger list ([0025]).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the teachings disclosed by Jaskiewicz-Toyoshima, with the teachings disclosed by Chatterjee et al regarding event action data indicating actions to be carried out when the event meets the condition defined in the event trigger list.  The suggestion/motivation of the combination would have been to improve the user friendliness by allowing user to define these lists (Chatterjee et al, [0025]).

As to claim 12, Jaskiewicz-Toyoshima-Chatterjee discloses a distributed storage network according to claim 11 in which said rules data structure forms a component of a policy data structure which further includes event data indicating one or more events which must take place in order to trigger the execution of said condition interpreter code (Chatterjee, [0025], the event trigger list is the data structure that includes event data indicating one or more events which much take place in order to trigger the execution of interpreting action list and alarm list).

14.    Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaskiewicz et al, in view of Toyoshima, as applied to claim 1, and further in view of Stadel et al (US patent 6128590).

As to claim 14, Jaskiewicz-Toyoshima discloses a distributed storage network according to claim 1 in which said interconnected computers comprise computers having differing hardware architectures and operating system programs stored thereon (Toyoshima, figure 1, wireless host and host server differs in hardware architectures and operating system programs), but does not expressly disclose storing common machine emulation code executable to translate code executable on said common machine to code executable on the hardware architecture and operating system of the machine on which the emulation code is executed. Stadel et al discloses storing common machine emulation code portable and are therefore translated (recompiled) for the destination hardware (col. 3, lines 40-49, "The two other program parts C and D…are portable and are therefore translated (recompiled) for the destination hardware…NOP represents a dummy command on the destination hardware (emulation code)").

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the teachings disclosed by Jaskiewicz-Toyoshima, with the teachings disclosed by

Stadel et al regarding storing common machine emulation code portable and are therefore

translated (recompiled) for the destination hardware. The suggestion/motivation of the

combination would have been to improve code portability.

*Claim Rejections - 35 USC § 102*

15.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

16.      Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Jaskiewicz et al, as

applied to claim 16.

         Claim 17 is a computer readable storage medium claim corresponding to method clam

16's limitations: steps a), b) and c), and also claim 1's steps a), b) and c). See similar rejection to

claim 1's steps a), b) and c).

*Conclusion*

         Any inquiry concerning this communication or earlier communications from the

examiner should be directed to HUA FAN whose telephone number is (571)270-5311. The

examiner can normally be reached on M-F 9am-6pm EST.

         If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system.  Status information for published applications

may be obtained from either Private PAIR or Public PAIR.  Status information for unpublished

applications is available through Private PAIR only.  For more information about the PAIR

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information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


/Hua Fan/
Examiner, Art Unit 2456